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Canada

MARKET ACCESS SECRETARIAT
Global Analysis Report

Dried Peas
in China

March 2016

EXECUTIVE SUMMARY

- Canada is by far the world's largest producer and exporter of pulses, with exports worth over C$3.1 billion in 2014.
- China is Canada's second-largest pulse export market after India. Canadian pulse exports to China grew from 333,620 tonnes in 2009 to 816,982 tonnes in 2014 averaging close to 20% increase years over year. Nearly all of this total was dry peas.
- The three use areas for pulses in China are food, feed, and ingredients. Dried peas are processed into starch, protein, and fibre which then can be used for food or feed.
- Peas do not contain gluten, therefore they provide an additional food choice for people that are gluten intolerant, and in addition they can be a key part of vegetarian diets since they are high in protein and contain amino acids for a balanced protein diet.
- Aquaculture is a growing industry in China, which is facing challenges meeting the existing demand for fishmeal. Since feed peas can be used as a source of protein for fish, it has the potential to play a larger role in aquaculture feed products.
- The use of peas as animal feed has potential in the Chinese market, because peas are rich in protein, lysine, and starch and will provide the essential amino acids and energy required by high-producing animals such as swine and poultry.

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BY THE NUMBERS

The world's major exporters of pulses are Canada, the United States, Australia, China and Argentina. These countries account for 74.5% of the global exports. Canada is by far the largest exporter of pulses representing 37.8% of world exports (Global Trade Atlas (GTA), May 2015).

In 2014, the value of global pulses exported was C$8.4 billion. Dried peas represented 26.6% or C$2.2 billion of world pulse exports. Data from GTA shows that Canada exported pulses to over 130 countries, but the main export destinations were India and China for dried peas and lentils, and Turkey (lentils and beans).

Top Ten Exporters Countries of Pulses
(Dry Peas- HS 071310, Lentils-HS 071340, Chickpeas-HS 071320 and Dry Beans- HS 0713 31/32/33/39/50)

Country		Canada Dollars			% Change 2014/2013
		2012	2013	2014	
World		**7,282,219,823**	**7,642,675,339**	**8,410,910,192**	**10.0**
1	Canada	1,868,085,684	2,782,089,681	3,178,766,415	14.2
2	United States	800,269,103	877,250,011	995,423,132	13.4
3	Australia	1,122,516,353	837,843,070	853,733,287	1.9
4	China	995,542,158	1,021,781,337	844,231,913	-17.3
5	Argentina	493,992,284	199,579,654	384,494,505	92.6
6	Mexico	298,381,290	188,759,872	276,221,544	46.3
7	Turkey	208,948,841	217,663,790	266,282,643	22.3
8	Russia	301,377,410	186,435,891	232,689,496	24.8
9	India	186,415,443	335,928,442	216,147,136	-35.6
10	France	254,544,512	217,562,845	173,653,883	-20.1

Source: *Global Trade Atlas, 2015.*

Top Ten Markets for Canadian Pulses
(Dry Peas- HS 071310, Lentils-HS 071340, Chickpeas-HS 071320 and Dry Beans- HS 0713 31/32/33/39/50)

Country		Canada Dollars			% Change 2014/2013
		2012	2013	2014	
Total Canadian Exports		**1,868,085,684**	**2,782,089,681**	**3,178,766,415**	**14.2**
1	India	504,423,193	726,500,510	884,645,681	21.7
2	China	233,475,926	402,713,155	317,440,699	-21.1
3	Turkey	81,485,202	176,204,924	284,916,664	61.7
4	Bangladesh	103,032,617	226,705,929	247,066,512	8.9
5	United States	159,580,232	173,719,091	221,130,488	27.2
6	United Arab Emirates	33,372,762	122,226,131	149,767,444	22.5
7	Egypt	22,781,874	72,414,600	81,686,824	12.8
8	United Kingdom	60,392,270	80,839,672	81,632,044	0.9
9	Pakistan	30,545,648	38,852,628	76,682,657	97.3
10	Colombia	52,855,459	51,593,966	67,774,486	21.6

Source: *Global Trade Atlas, 2015.*

China is the second-largest destination market for Canadian pulses. Dried peas represent almost the entirely of China's pulse imports from Canada with a volume of 730,134 tonnes, valued at C$303.9 million (based on China customs). The table below shows the entry points of dried peas into China.

China Import from Canada (Transport Mode: Sea) Via District: All Districts
Commodity: 071310, Peas (Pisum Sativum), Dried Shelled, Including Seed

District	Canada Dollars				
	2010	2011	2012	2013	2014
All Districts	153,864,415	279,109,528	274,218,764	423,537,374	303,900,537
Qingdao	80,008,442	188,576,408	148,216,349	245,888,455	165,922,951
Huangpu	37,745,555	44,487,234	58,004,534	73,859,400	56,336,158
Nanning	-	11,463,715	30,978,244	49,625,339	27,768,734
Tianjin	5,724,430	9,399,414	13,403,003	21,740,440	23,735,903
Xiamen	9,850,631	7,569,080	14,249,669	19,532,149	15,236,086
Hefei	4,093,257	4,991,009	1,962,979	3,871,421	4,802,551
Nanjing	915,480	1,993,714	203,642	835,686	3,074,355
Shenzhen	13,610,735	8,615,414	5,628,785	5,220,423	2,716,953
Shanghai	1,738,286	435,460	138,493	1,387,176	2,244,199
Wuhan	81,564	247,583	608,471	1,027,495	1,034,340
Dalian	-	-	198,952	109,396	647,037
Jinan	-	-	-	-	147,622
Guangzhou	96,034	311,325	-	111,879	129,973
Zhengzhou	-	584,172	104,962	76,869	103,675
Ningbo	-	435,000	520,681	251,245	-

Source: *Global Trade Atlas, 2015*

A report on pulses by *Field Guide Consulting and Strategic Vision Consulting Inc. (August 2013)*, for The Alberta Department of Agriculture, identified that Chinese food manufacturing tends to be located in sites that offer logistical advantages, cost advantages or market access. For instance, Asian noodle manufacturing (which may use dried peas imported from Canada) is concentrated in the Shandong province of China because of access to Qingdao seaport and easy distribution of products throughout the country.

ECONOMIC DRIVERS AND CONSUMER ATTITUDES

China is a populous country with roughly 1.4 billion people, and a consumer market that continues to evolve through urbanization and rising of disposable incomes. As living standards improve, consumers are increasingly paying more attention to ways of living healthy. Consumers are increasingly interested in pulses products that are nutritious, contain healthier ingredients and functions, and support a balanced diet.

Dried peas and wellness

According to Pulse Canada, pulses tend to be inexpensive, and are a source of high-quality nutritive and wellness qualities. Pulses such as dried peas are being actively sought more than ever to promote general well-being, and as a component of a balanced diet. They are low in fat, low in sodium, cholesterol free, high in protein and are an excellent source of complex carbohydrates, and vitamins and minerals. Flour made from dried peas is also a gluten-free and nutritious option for individuals with celiac disease.

Dried peas are also a great source of both soluble and insoluble fibre. According to Pulse Canada paper "Note from the dietitian", peas provide soluble dietary fibre which is shown to have beneficial effect preventing cardiovascular disease, especially by lowering cholesterol levels. In addition, research has shown soluble fibre to be beneficial in the management of type-2 diabetes. The consumption of insoluble dietary fibre can be beneficial to a healthy colon and has been associated with reducing the risk of colon cancer. Finally, a diet high in fibre has demonstrated beneficial effects on weight loss because it delivers more bulk and less calories.

RETAIL ENVIRONMENT

The tables below show that the retail channel accounted for over 41.8% or 1.5 million tonnes, of pulse sales in China, followed by the foodservice channel with 30.1% (1.0 million tonnes), and the institutional channel with 28.1% (1.0 million tonnes). The share of the retail channel increased between 2010 and 2014 at a CAGR of 4.9%, while that of the foodservice channel saw a higher CAGR of 5.9%.The institutional channel saw a CAGR 5.81% over that same period.

Despite having little prospects for growth in the volume sales of pulses, with a sluggish CAGR of no more than 1% in total over the forecast period of 2015 to 2019, as meat and meat products are becoming more affordable to a larger consumer base. However, it is believed that most pulses will still be used for drinks, desserts and other packaged food, as they are important raw materials for food processing.

Distribution of Pulse Products Sales in China
Breakdown Based on Volume Sales in '000 Tonnes

Outlets	2010	2011	2012	2013	2014	CAGR % 2010-14
Retail	1,240.4	1,530.7	1,507.4	1,499.1	1,503.4	4.9
Foodservice	859.8	1,069.7	1,062.0	1,070.8	1,082.6	5.9
Institutional	804.6	1,001.3	994.3	999.4	1,010.7	5.8
Total	**2,904.8**	**3,601.7**	**3,563.7**	**3,569.4**	**3,596.7**	**5.4**

Historic Pulse Volume Sales in China by Category in '000 Tonnes

Category	2010	2011	2012	2013	2014	CAGR % 2010-14
Dried beans	1,565.5	1,851.0	1,786.2	1,768.4	1,773.7	3.1
Dried peas	1,241.4	1,630.8	1,655.3	1,676.8	1,696.9	8.1
Other pulses	97.9	119.9	122.1	124.2	126.1	6.5
Total pulses	**2,904.8**	**3,601.7**	**3,563.7**	**3,569.4**	**3,596.7**	**5.4**

Forecast Pulses Volume Sales in China by Category in '000 Tonnes

Category	2015	2016	2017	2018	2019	CAGR % 2015-19
Dried beans	1,782.6	1,796.8	1,807.6	1,814.8	1,823.9	0.5
Dried peas	1,713.9	1,727.6	1,739.7	1,750.1	1,758.9	0.6
Other pulses	127.7	129.1	130.4	131.4	132.1	0.8
Total pulses	**3,624.2**	**3,653.5**	**3,677.7**	**3,696.4**	**3,714.9**	**0.6**

Source for all: *Euromonitor, 2015.*
Please note: *Any slight discrepancies in column totals are due to rounding.*

PET FOOD AND ANIMAL FEED

The health benefits of pulses are not limited to humans, but extended to animals as well. Pulses and especially dried peas are mainly used in pet food, aquaculture, and livestock feed, including poultry, swine and cattle.

According to Euromonitor, China has been one of the fastest growing pet care markets in the world over recent years. With rising disposable incomes and climbing consumer sophistication, pet ownership is on the rise, and pet owners in China are willing to spend more on their pet, resulting in a much stronger value growth than volume growth.

Pet owners are not only concerned about pet food, but also the overall health status to be brought about by animal food. As a result, pet food with natural ingredients or without additives or preservatives seems to be more popular.

China – Historic Pet Food Value Sales by Category in US$ millions 2010-14

Category	2010	2011	2012	2013	2014	CAGR % 2010-14
Pet Care	1,086.2	1,191.6	1,301.1	1,424.6	1,561.5	9.5
Pet Food	394.4	435.5	482.4	541.3	603.2	11.2
Dog and Cat Food	386.3	426.8	473.0	531.4	592.7	11.3
Other Pet Food	8.1	8.8	9.4	9.9	10.5	6.7
Pet Products	691.8	756.1	818.7	883.3	958.3	8.4

China – Forecast Pet Food Value Sales by Category in US$ millions 2015-19

Category	2015	2016	2017	2018	2019	CAGR % 2015-19
Pet Care	1,719.0	1,896.5	2,099.0	2,333.6	2,604.4	10.9
Pet Food	673.6	754.2	847.1	955.1	1,081.1	12.5
Dog and Cat Food	662.5	742.4	834.4	941.5	1,066.6	12.6
Other Pet Food	11.1	11.9	12.7	13.5	14.5	6.9
Pet Products	1,045.4	1,142.3	1,252.0	1,378.5	1,523.3	9.8

Source for both: *Euromonitor International, 2015.*

AQUACULTURE

China has a long history in aquaculture. Fish farming of certain fish species for the domestic market expanded throughout China as the demand for fish and seafood exceeded what could be supplied from the wild. Consequently marine and fresh water aquaculture evolved to become a dynamic export industry. The Chinese aquaculture market, which can be divided into freshwater fish, molluscs, crustaceans and marine is highly fragmented and consists of many small and mid-sized players, mainly composed of self-employed farmers.

According to the Food and Agriculture Organization (FAO), the aquaculture in China looks promising, however, there are still a lot of important challenges need to be addressed. One of these challenges is a reliable source of fish feed. Peas exhibit excellent potential for aquaculture feeds, their high nutritional compounds, which are composed of protein, amino acids, fat, fatty acids, carbohydrates and fibre, could

be the answer. Whole ground peas may be used in some aqua feed while concentrated protein product made from peas has been shown to be advantageous for aquaculture feeds.

China's Import of Animal Feed Preparations (Mixed Feeds, Etc.), Other Than Dog or Cat Food Put Up For Retail Sale

Commodity	Description	C$ million				
		2010	2011	2012	2013	2014
230990	Animal feed preparations, excluding dog or cat food for retail sale	171.97	202.39	225.14	224.14	253.42
23099010	Prepared feed additives	91.25	121.78	133.77	127.47	145.15
23099090	Other preparations used in animal feeding, not elsewhere specified	80.72	80.61	91.37	96.66	108.28

China's Imports of Animal Feed Preparations (Mixed Feeds, Etc.) Up for Retail Sale, Other Than Dog or Cat Food, Top Supplier Market Share in C$ million and %

Rank	Supplier	2012	2013	2014	% Share			% Change 2014/13
World		**225.14**	**224.14**	**253.42**	**100.00**	**100.00**	**100.00**	**13.0**
1	United States	71.97	78.36	81.76	31.96	34.96	32.26	4.3
2	Netherlands	31.57	29.67	35.79	14.02	13.24	14.12	20.6
3	France	11.08	11.39	20.53	4.92	5.08	8.1	80.1
4	Japan	12.09	9.99	13.98	5.37	4.46	5.51	39.9
5	United Kingdom	14.81	14.31	12.30	6.58	6.38	4.85	-14.0
6	Denmark	6.41	8.00	9.66	2.85	3.57	3.81	20.7
7	Malaysia	4.74	6.06	9.00	2.11	2.7	3.55	48.6
8	Singapore	7.93	8.31	8.29	3.52	3.71	3.27	-0.3
9	Taiwan	11.65	8.58	7.71	5.17	3.83	3.04	-10.1
10	Italy	4.00	5.93	7.52	1.78	2.64	2.97	26.9
20	Canada	3.84	2.50	1.62	1.71	1.11	0.64	-35.3

Source for both: *Global Trade Atlas, 2015.*

NEW PRODUCT LAUNCHES

According to the Mintel Global New Product Database (GNPD), from 2010-14, there were 538 new products containing peas launched in China. Of the 538 new product launches, 260 were of the new product variety. No additive/preservatives was the most popular claim accounting for 20.3% (109 products) of overall products launched over the five-year period.

The top two packet sizes were 500.ml with 42 products and 100.g with 33 products launched. Unflavoured/plain was the most popular flavour used over the 2010-14 period with 103 products, followed by garlic and peas with 38 products.

New Product Launches of Pea Products in China, January 1, 2010 to December 31, 2014, by Feature

Feature	Yearly Launch Counts				
	2010	2011	2012	2013	2014
Yearly product launches	57	87	91	97	206
Launch type					
New variety/range extension	7	25	44	32	115
New product	48	57	37	54	64
New packaging	2	5	10	9	26
New formulation	0	0	0	2	1
Top five claims					
No additives/preservatives	19	11	24	20	35
Babies and toddlers (0-4)	14	7	12	10	18
Time/speed	4	4	1	4	13
Children (5-12)	3	1	0	12	9
Convenient packaging	4	5	2	0	8
Categories					
Natural	19	11	24	20	36
Demographic	16	8	12	22	27
Convenience	10	14	9	9	35
Functional	4	6	6	6	10
Minus	5	4	5	5	5
Top five pack sizes					
500 ml	2	6	8	5	21
100g	3	2	4	6	18
80g	1	6	6	3	11
420ml	0	7	8	4	4
108g	2	2	4	4	4
Top five prices (US dollars)					
US$ 0.07 - 3.78	37	71	65	73	163
US$ 3.79 - 7.50	3	9	4	12	36
US$ 7.51 - 11.22	1	1	1	4	2
US$ 11.23 - 14.94	0	0	1	1	3
US$ 14.95 - 18.67	0	0	0	0	2

Source: *Mintel GNPD, 2015.*

NEW PRODUCT SAMPLES

Ancient Recipe Aged Vinegar
6° ancient recipe aged vinegar is made of water, sorghum, wheat bran, barley, pea and salt. The product claims to be smooth, sour, aromatic and mellow. The vinegar is free from acetic acid, colourings and preservatives. This product retails in a 500ml glass bottle.

Company: Lao Xiang Chen
Brand: Lao Xiang Cun
Category: Vinegar
Date Published: October 2014
Price: US$3.17
Pack Size: 550ml
Claims: No additives/no preservatives

Refreshing Green Oatmeal Breakfast Cereal

Green Oatmeal Breakfast Cereal is made with selected quality oatmeal from Australia, matcha, raisins and peas. The instant cereal is rich in dietary fibre and free from preservatives, colourings and non-dairy creamer. According to the manufacturer, dietary fibre helps to maintain healthy intestinal functions. This product can be served with soy milk or milk, and retails in a 350g pack containing ten 35g units.

Company: Cofco, China
Brand: Lohas Grain Chorus
Category: Breakfast cereals
Date Published: September 2014
Price: US$4.44
Pack Size: 350g
Claims: Digestive (functional), high/added fibre, no additives/preservatives, time/speed

Five Grain Instant Noodles
The five grain instant noodles are in a sour, spicy and aromatic soup. The noodles contain millet, purple potato, buckwheat, peas and oats. This non-fried and microwaveable product is free from preservatives and artificial colourings, and retails in a 200g pack.

Company: Cofco Wu Gu Dao Chang, China
Brand: Cofco The Cereal Way Chef's Grain Noodle
Category: Meals and meal centers
Date Published: September 2014
Price: US$2.30
Pack Size: 200.0g
Claims: Microwaveable, no additives/preservatives, other (functional), time/speed

Source for all: *Mintel, GNPD, 2015*

Zheng Yue Shi Wu Bakery, China

Zheng Qi Zi Almond cakes are quality certified. This handmade product contains almonds, green bean powder, pea flour and white sugar.

Company: Zheng Yue Shi Wu Bakery
Brand: Xu Ji Bing Jia
Category: Bakery
Date Published: October 2014
Price: US$3.05
Pack Size: 380.g
Claims: No additives/preservatives

Haiwan Su Cui Wan Dou (Crisp Pea)

Pea Snack is available in a newly designed 108g pack. This halal-certified snack is made using selected peas and processed according to traditional techniques.

Company: Haiwan Food, China
Brand: Haiwan
Category: Snack
Date Published: November 2014
Price: US$0.70
Pack Size: 118g
Claims: Halal

Pedigree You Quan Quan Liang

Dog food for puppies is reformulated with improved immunity. It is designed for all puppies under one year of age. It features a milk, vegetable and cereal formula, and contains added antioxidants (vitamin E) to improve immune ability.

Company: Mars China
Brand: Pedigree
Category: Pet food
Date Published: November 2014
Price: US$5.69
Pack Size: 2.87lb
Claims: Digestion and urinary tract (functional pet), immune system (functional pet)

CONCLUSION

Peas and pea product exports to China are expected to continue to increase as a result of an expanding middle class and the country's increasing consumption. Exports intended for human consumption market have been growing as more Chinese consumer, purchase peas and pea product as an alternative to meat protein. Furthermore, as a result of research and market development focusing on a healthy diet that incorporates pulses, dried peas and variants are increasingly being incorporated into processed food products due to their high nutritional value and health benefit and attribute.

Furthermore, the demand for protein by Chinese consumers is driving expansion of the aquaculture and livestock industry. Fish and pork are the preferred meat, followed by poultry products. Raising animals for human consumption is pushing the demand for various feed ingredients for which Canada is a global player.

FOR MORE INFORMATION

International Trade Commissioners can provide Canadian industry with on-the-ground expertise regarding market potential, current conditions and local business contacts, and are an excellent point of contact for export advice.

- **Overview of Trade Commissioner Services in China**
  http://www.tradecommissioner.gc.ca/eng/offices-china.jsp
- **Find a Trade Commissioner**
  www.tradecommissioner.gc.ca/eng/find-trade-contacts.jsp
- **Canadian Grain Commission**
  http://www.grainscanada.gc.ca/index-eng.htm

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- ats-sea.agr.gc.ca

RESOURCES

Edalliance: http://www.edalliance.ca/Public/Page/Files/8_Opportunities%20in%20Pulse%20Processing-%20Feasibility%20Study%20in%20Southeast%20Alberta.pdf

Euromonitor International, April 2015. Pulses in China

Euromonitor International, August 2014. Pet Care in China

FAO: http://www.fao.org/fishery/countrysector/naso_china/en

Global Trade Atlas, 2015.

Mintel, 2015, *Global New Product Database (GNDP)*.

Pulse Canada: http://www.pulsecanada.com/pnn/note-from-the-dietitian

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